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PRE-APPEAL BRIEF REQUEST FOR REVIEW		Docket Number (Optional) SON-3162	
	Application Number 10/579,211-Conf. #6592	Filed May 12, 2006	
	First Named Inventor Toshihiko Shirasagi et al.		
	Art Unit 1795	Examiner A. L. Verderame	
<p>Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.</p> <p>This request is being filed with a notice of appeal.</p> <p>The review is requested for the reason(s) stated on the attached sheet(s). Note: No more than five (5) pages may be provided.</p> <p>I am the</p> <p><input type="checkbox"/> applicant /inventor.</p> <p><input type="checkbox"/> assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)</p> <p><input checked="" type="checkbox"/> attorney or agent of record. Registration number <u>40,290/47,255</u></p> <p><input type="checkbox"/> attorney or agent acting under 37 CFR 1.34. Registration number if acting under 37 CFR 1.34. _____</p> <div style="text-align: right;"> _____ Signature Christopher M. Tobin/Brian K. Dutton _____ Typed or printed name  (202) 955-3750 _____ Telephone number April 6, 2010 _____ Date</div>			
NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.			
<input checked="" type="checkbox"/> *Total of <u>1</u> forms are submitted.			



Docket No.: SON-3162  
(PATENT)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Patent Application of:  
Toshihiko Shirasagi, et al.

Application No.: 10/579,211

Confirmation No.: 6592

Filed: May 12, 2006

Art Unit: 1795

For: MANUFACTURING METHOD OF MASTER  
DISC FOR OPTICAL DISC, AND MASTER  
DISC FOR OPTICAL DISC

Examiner: A. L. Verderame

**REQUEST FOR PRE-APPEAL BRIEF PANEL REVIEW OF REJECTION**

MS AF  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

This is in full and timely response to the Office Action dated November 4, 2009.

- i. **Claims 1, 5-7 and 10 have been canceled within the Response to Final Office Action filed on February 1, 2010.**
- ii. **Claim 4 has been placed into independent form within the Response of February 1, 2010.**

**Claim 4** is drawn to a method *wherein, in said film forming step, oxygen concentration of said inorganic resist layer is made different in its thickness direction, and wherein said oxygen concentration is increased toward the surface of said substrate from the surface of said inorganic resist layer.*

**Regarding Japanese Application Publication No. 2003-315998 (Kouchiyama'988),**  
the Office Action **readily admits** that Kouchiyama'988 **does not teach** varying the oxygen

concentration so that the concentration near the surface of the substrate is lower than the concentration at the surface of the resist.

*Thus, Kouchiyama '988 fails to disclose, teach, or suggest a method wherein in said film forming step, oxygen concentration of said inorganic resist layer is made different in its thickness direction.*

*Likewise, Kouchiyama '988 fails to disclose, teach, or suggest a method wherein said oxygen concentration is increased toward the surface of said substrate from the surface of said inorganic resist layer.*

*Within claim 4, the oxygen concentration of said inorganic resist layer is made different in the thickness direction by changing at least either a film forming power or a reactive gas ratio.*

*However, Kouchiyama '988 fails to disclose that within a sputtering method, the oxygen concentration of the inorganic resist layer is made different in the thickness direction by changing at least either a film forming power or a reactive gas ratio.*

**Regarding U.S. Patent No. 4,786,538 (Saito)**, Saito arguably teaches that the heat treatment (annealing) applied to the TeO<sub>x</sub> film formed in accordance with the above-described film forming method is effective to further stabilize the film construction and can be used also in the present invention (Saito at column 3, line 66 to column 3, line 2).

These objects of the present invention are accomplished by an optical recording medium in which by a metal tellurium vapor passing through oxygen gas and/or inert gas formed into a plasma by a high frequency electric power, (a) a tellurium or tellurium suboxide (TeO<sub>x</sub>, 0≤x<2) layer and or (b) a tellurium dioxide (TeO<sub>2</sub>) layer are laminated, or (a) a tellurium dioxide (TeO<sub>2</sub>), (b) tellurium and/or a tellurium suboxide (TeO<sub>x</sub>, 0≤x<2) and (c) a tellurium dioxide (TeO<sub>2</sub>) layers are laminated (Saito at column 2, lines 28-41).

However, the present claims include an incomplete oxide of a transition metal.

In this regard, the Office Action *fails* to show tellurium as being a transition metal.

Saito arguably teaches that it is further possible to incorporate a material having a great laser absorptivity such as Sb, Mo, Ge, Se, Bi, In, Sn etc. *in the TeOx film* (Saito at column 4, lines 7-9).

Nevertheless, Saito *fails* to disclose, teach, or suggest *an incomplete oxide of a transition metal*.

*In this regard, the Office Action fails to show that tellurium and a transition metal are one in the same. Here, a review of any periodic table may reveal tellurium as being something other than a transition metal.*

Saito *fails* to disclose, teach, or suggest the use of *a sputtering method* to form a film onto the substrate.

Instead, Saito arguably discloses that in the present invention, metal tellurium is vaporized by the *ion plating method* *under the atmosphere of oxygen gas and/or inert gas (which is sometimes generally merely referred to as "gas")* (Saito at column 3, lines 6-9).

Here, Saito *fails* to disclose, teach, or suggest the process parameters of the *ion plating method* being compatible with a sputtering process.

Thus, Saito *fails* to disclose that *within a sputtering method*, *the oxygen concentration of the inorganic resist layer is made different in the thickness direction by changing at least either a film forming power or a reactive gas ratio.*

The Office Action *fails* to show that the skilled artisan would have substituted the method of Kouchiyama'988 with the ion plating method of Saito.

But even if the Office Action shows that the skilled artisan would have substituted the method of Kouchiyama'988 with the ion plating method of Saito, the combination of

Kouchiyama'988 and Saito fails to show a sputtering method wherein *the oxygen concentration of said inorganic resist layer is made different in the thickness direction by changing at least either a film forming power or a reactive gas ratio.*

In this regard, the Office Action fails to show that the process variables within the ion plating method of Saito would have been equally applicable to the method of Kouchiyama'988.

**Regarding U.S. Patent No. 4,916,048 (Yamada),** in the various embodiments of Yamada, the first element is one selected from the group of Te, Sb, Bi, Si, Ge, Sn, Pb, In, Tl, Mo and W (Yamada at column 2, lines 56-58).

*However, Yamada fails to disclose, teach, or suggest an incomplete oxide of a transition metal.*

The Office Action seems to conclude that the oxygen content in an oxide of tellurium and an oxide of either tungsten or molybdenum would likely produce the same results (Office Action at page 3).

However, this contention appears to be conclusory at best since the Office Action fails to show that tellurium and a transition metal are one in the same.

Instead, a review of any periodic table may reveal tellurium as being something other than a transition metal.

Within claim 4, *the oxygen concentration of said inorganic resist layer is made different in the thickness direction by changing at least either a film forming power or a reactive gas ratio.*

However, Yamada fails to disclose that within a sputtering method, *the oxygen concentration of the inorganic resist layer is made different in the thickness direction by changing at least either a film forming power or a reactive gas ratio.*

**Regarding Japanese Application Publication No. 2001-344826 (Lee),** paragraph [0008] in the machine translation of Lee arguably discloses that the laser of different power Pw1 and Pw2 cuts this photoresist 103.

However, Lee **fails** to disclose, teach, or suggest **an incomplete oxide of a transition metal**.

Moreover, Lee **fails** to disclose that **within a sputtering method**, the oxygen concentration of the inorganic resist layer is **made different in the thickness direction by changing at least either a film forming power or a reactive gas ratio**.

***Either individually or as a whole, Kouchiyama'988, Saito, Yamada, and Lee fail to disclose, teach, or suggest a method wherein:***

***a single element or alloy of the transition metal, or an oxide of them is used as a target material,***

***said inorganic resist layer is formed as a film onto the substrate by a sputtering method using oxygen or nitrogen as a reactive gas, and***

***the oxygen concentration of said inorganic resist layer is made different in the thickness direction by changing at least either a film forming power or a reactive gas ratio.***

Dated: April 6, 2010

Respectfully submitted,

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